Mapper

```
class MAPPER
    method INITIALIZE()
        Create empty temp_list
        Create empty temp_dict
        Set old_user_id to some non-positive integer (say 0)
     method MAP(line l)
        info <- split the line
        user_id <- info[0]
        movie_id <- info[1]
        rating <- info[2]
        if rating >= 4.0 do
            if old_user_id != user_id do
                sort temp_list
                for all movie_i in temp_list do
                    for all movie_j > movie_i in temp_list do
                        if movie_j in temp_dict do
                            temp_dict[movie_j] <- temp_dict[movie_j] + 1
                        else
                            temp_dict[movie_j] <- 1
                    EMIT(movie_i, movie_dict)
                    movie_dict <- {}
                temp_list <- []
                old_user_id <- user_id
            else
                temp_list.append(movie_id)
```

Reducer

```
class REDUCER
    method INITIALIZE()
        Read movies.csv file and store the movie names into a global dictionary
        where movie_id is key and movie_name is the value
        set threshold to any value (say 1000)
    method REDUCE(movie_i, list [dict1, dict2, …….])
        for all dict in list do
            for all movie_j in dict do
                if movie_j in temp_dict do
                    temp_dict[movie_j] <- temp_dict[movie_j] + 1
                else
                    temp_dict[movie_j] <- 1
        for all movie_j in temp_dict do
            if temp_dict[movie_j] > threshold do
                EMIT(movie_i, movie_j, temp_dict[movie_j])
```